

MANUFACTURING EXTENSION PARTNERSHIP

Success Stories from the Field

Roper Pump

Georgia Manufacturing Extension Partnership

Roper Pump Improves Production and Develops New Products

Client Profile:

Roper Pump, founded in 1957, is a supplier of industrial pumps including helical gear pumps, progressing cavity pumps, triple screw pumps, rotary lobe pumps, pumping systems and solutions for the industrial, transport, power generation, and oil and gas industries. The company employs 180 people at its facility in Commerce, Georgia.

Situation:

Roper Pumps president, Walt Stadnisky, serves on the Industry Services Board for Georgia Tech's Enterprise Innovation Institute (EII) of the Georgia Manufacturing Extension Partnership (Georgia MEP), a NIST MEP network affiliate, and was aware of available services Georgia MEP offered. Jim Simonelli, Roper Pump's Vice President of Business Development, said, "We had some issues with quality and did a Six Sigma project on our own to identify and remove the causes of errors and defects. Based on the success, we started thinking that if we got some outside help, we would have even greater success." The company contacted Georgia MEP for assistance with implementing Lean management principles, a set of tools used in manufacturing to help identify and eliminate waste.

Solution:

Georgia Tech's Lean specialists, Karen Fite and Frank Mewborn, led a project to help Roper Pumps reduce time, inventory, and production costs while improving production capacity, cash flow, and response time to the customer. The first step in the process was to develop a current state map. By walking through the process, the Roper Pump team observed and documented value-added versus non-value-added time spent on each step. The observations were striking: for one product line, the non-value added steps totaled 18 days whereas the value-added steps took a mere 42 minutes. After a brainstorming session, the team chose to focus on waste, changeover time, production planning, and material productivity. "To eliminate waste, the team implemented 5S, a method of cleaning up and organizing the workplace that typically results in labeled and color-coded storage locations, as well as kits that contain just what is needed to perform a particular task," Mewborn said. "We implemented point-of-use tooling and gauges, as well as point-of-use material, saving more than 300 miles of travel per year within the plant."

The company also developed a kanban system (a signaling system used to trigger a particular action), implemented a quick change tooling method to reduce changeover time, and eliminated outsourcing heat treatment (a method used to harden or soften a material in manufacturing). Changeover time went from 88 to 38 minutes, a 55 percent decrease; time went from 18 to 8 days; and material travel was reduced by 450 feet daily. By no longer outsourcing the heat treatment, the company also saved \$18,000 annually.

Charles France, a growth services specialist with the EII, also assisted Roper Pump with improving its product development program. Georgia Tech facilitated a brainstorming session that resulted in more than 150 ideas for new products involving new market entry, improved sales distribution channels,

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upgrading existing products and product processes, new technologies and creative arrangements with potential partners. "Roper Pumps had been experiencing problems common to product development, such as too many projects in the pipeline and legacy projects that wouldn't go away," France said. "We provided guidelines for implementing more stringent evaluation criteria and consulted on improving key aspects of their existing new product development processes. Roper Pumps not only prioritized new product projects but also was able to cull out the legacy projects, thus freeing up resources to focus on the most promising new products." As a result of assistance from Georgia MEP, the company is now pursuing a major product development for its main product line that will provide product sales for decades.

Results:

- * Realized a cost savings of \$18,000.
- * Reduced changeover time by 55 percent.
- * Reduced lead time from 18 days to 8 days.
- * Reduced travel time by 450 feet daily.

Testimonial:

"Georgia Tech has a host of wonderful programs and if you look at the cost of getting this highly professional experience, I don't know how anybody can turn it down. The value is outstanding. The biggest worth is the overall culture change Georgia Tech has helped bring to Roper Pumps."

Jim Simonelli, Vice President, Business Development